AMENDMENTS TO THE CLAIMS

Please amend the claims to be as follows (marked up to show changes made).

1. (canceled)

2. (currently amended) [[The]] A method of ~~carrying out a reference filling routine~~ filling an exposed area of unfilled pixels in an image frame of a video sequence using color information from boundary segments adjacent to the exposed area, the [[steps]] method comprising:

determining the boundary segments adjacent to the exposed area;

determining a kernel ~~considering a region of adaptive dimensions~~ around each unfilled pixel ~~at the~~ along a boundary of the exposed area; and

~~determining the~~ calculating a statistical distribution of colors for each boundary segment adjacent to the exposed area based on color values of all pixels within the ~~region~~ kernel belonging to [[each]] that boundary segment[[;]].

3. (canceled)

4. (currently amended) The method of claim 2, further comprising calculating a statistical parameter ~~of the color values for each adjacent segment determined~~ from [[the]] said statistical distribution of colors for each boundary segment.

5. (currently amended) The method of ~~claim 2~~ claim 4, further comprising:

calculating [[the]] a difference between [[the]] actual color values of the unfilled pixel based on a previous image frame of the video sequence and ~~the value of~~ the calculated statistical parameter for each boundary segment; and

identifying ~~the smallest difference value and the~~ which boundary segment [[which]] provides [[the]] a smallest said difference [[value]].

6. (currently amended) The method of ~~claim 2~~ claim 5, further comprising:

filling the unfilled pixel with ~~the value of~~ the calculated statistical parameter of the ~~segmentadjacent to the selected pixel that has~~ boundary segment with the smallest difference if [[this]] the smallest difference is less than a threshold value.

7. (currently amended) The method of ~~claim 2~~ claim 6, further comprising :

assigning to the unfilled pixel, [[the]] a segment identifier of the ~~segmentadjacent to the selected pixel that has~~ boundary segment with the smallest difference ~~between the actual color value of that pixel and the calculated statistical parameter if this~~ if the smallest difference is less than a threshold value.

8. (currently amended) The method of ~~claim 2~~ claim 7, further comprising:

leaving the unfilled pixel ~~unfilled~~ as unassigned to a boundary segment if the smallest difference ~~between the actual color value of that pixel and the calculated statistical parameter~~ is greater than [[a]] the threshold value.

9. (currently amended) The method of ~~claim 2~~ claim 8, further comprising:

increasing the threshold value if a certain percentage or less of the unfilled pixels ~~can be filled with the current threshold~~ are assigned to a boundary segment using a current threshold value.

10. (currently amended) The method of ~~claim 8~~ claim 9 where the percentage ~~of pixels~~ is zero.

11. (currently amended) The method of ~~claim 2~~ claim 7, further comprising:

repeating the steps in claims 2 through 7 for each unfilled pixel [[at]] along the boundary of the exposed area until ~~the entire~~ an entirety of the exposed area is filled.

12. (currently amended) The method of ~~claim 2~~ claim 4, wherein statistical distributions of three color components Y, U, V are ~~determined~~ used in calculating the statistical parameter.

13. (currently amended) The method of ~~claim 2~~ claim 4, where statistical distributions of each component of a multi-spectral image ~~is determined~~ are used in calculating the statistical parameter.

14. (currently amended) The method of claim 4, wherein the statistical parameter is [[the]] a median color value ~~of the statistical distribution.~~

15. (currently amended) The method of claim 4, wherein the statistical parameter is [[any]] a statistical moment of [[the]] a distribution of color values.

16. (currently amended) [[The]] A method of determining [[the]] image segments to be used for filling an exposed area of unfilled pixels in an image frame of a video sequence, the [[steps]] method comprising:

filling the exposed area using color information from boundary segments adjacent to the exposed area;

calculating [[the]] a percentage of pixels within the exposed area that [[are]] is filled by each of the boundary segments; and

calculating a geometric parameter that ~~represents the~~ represents a geometric shape of [[the area]] a portion filled by each of the boundary segments.

17. (currently amended) The method of claim 16, wherein the geometric parameter representing the geometric shape is a function of ~~the~~ a perimeter length of the filled portion, or a function of ~~the~~ an area of the filled portion.

18. (currently amended) The method of claim 16, wherein the geometric parameter representing the geometric shape is a function of both ~~the~~ a perimeter length and ~~the~~ an area of the filled portion.

19. (currently amended) The method of claim 16, further comprising: ~~selecting a set of tentative fill segments, the steps comprising:~~

selecting a segment as a tentative fill segment, if ~~their~~ an area of the portion filled by the segment ~~contribution to the filled region~~ is greater than ~~a predetermined contribution of all of the boundary segments~~ an average area of the portions filled by all of the boundary segments;

selecting [[a]] the segment as [[a]] the tentative fill segment, if ~~their contribution~~ the area of the portion filled by the segment is less than ~~the predetermined contribution~~ said average area but greater than a certain threshold value, and the geometric parameter of the ~~region~~ portion filled by [[this]] the segment is within a threshold range; and

otherwise rejecting [[a]] the segment as [[a]] the tentative fill segment ~~if one of the above two criteria are not met~~.

20. (canceled)

21. (canceled)

22. (currently amended) The method of ~~claim 15~~ claim 19, wherein a set of tentative fill segments are selected, and further comprising:

calculating a function of [[the]] a perimeter length[[s]] that each of the tentative fill segments contribute to [[the]] a perimeter of the exposed area.

23. (currently amended) The method of claim 22 where the function of the perimeter length[[s]] is [[the]] a normalized ratio of [[the]] squares of [[the]] perimeter lengths.

24. (currently amended) The method of ~~claim 15~~ claim 23, further comprising:

calculating a function of ~~the areas of the regions~~ an area contributed by [[the]] each of the tentative fill segments.

25. (currently amended) The method of claim 24 where the function of the area[[s]] is [[the]] a normalized ratio of [[the]] areas.

26. (currently amended) The method of ~~claim 15~~ claim 25, further comprising:

calculating a function of [[the]] a difference between ~~the ratios~~ said normalized ratio of squares and said normalized ratio of areas.

27. (currently amended) The method of claim 26 where the function of the difference between the ratios is [[the]] a sum of [[the]] absolute values of the difference between the ratios.

28. (currently amended) The method of ~~claim 15~~ claim 27, further comprising:

~~repeating the steps in claims 15 through 26 after~~ excluding [[the]] a segment ~~where the~~ corresponding to a greatest value obtained by subtracting the normalized area from the normalized length squared ~~is the greatest~~; and

recalculating the sum of the absolute values of the difference between the ratios.

~~determining if the sum of the absolute values of the differences recalculated in this step is smaller than that obtained in the previous calculation of the same parameter.~~

29. (currently amended) The method of ~~claim 15~~ claim 28, further comprising repeating ~~the steps in claim 15~~ said excluding and recalculating until the sum of the absolute values of the difference is greater than that calculated during [[the]] a previous recalculation.

30. (currently amended) The method of ~~claim 15~~ claim 29, further comprising selecting the set of segments used to calculate [[the]] a lowest sum of the absolute values of the differences as the ~~fill segments~~ image segments to be used for filling the exposed area.

Claims 31-60. (canceled)

61. (new) An apparatus for filling an exposed area of unfilled pixels in an image frame of a video sequence using color information from boundary segments adjacent to the exposed area, the apparatus comprising:

means for determining the boundary segments adjacent to the exposed area;

means for determining a kernel around each unfilled pixel along a boundary of the exposed area; and

means for calculating a statistical distribution of colors for each boundary segment adjacent to the exposed area based on color values of all pixels within the kernel belonging to that boundary segment.

62. (new) An apparatus for determining image segments to be used for filling an exposed area of unfilled pixels in an image frame of a video sequence, the apparatus comprising:

means for filling the exposed area using color information from boundary segments adjacent to the exposed area;

means for calculating a percentage of pixels within the exposed area that is filled by each of the boundary segments; and

means for calculating a geometric parameter that represents a geometric shape of a portion filled by each of the boundary segments.